

Message

From: Journal Of Exposure Science And Environmental Epidemiology [onbehalf@manuscriptcentral.com]
Sent: 11/21/2018 3:15:33 AM
To: Guiseppi-Elie, Annette [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=63d3e2eab9c4acba2609baa90b0f735-Guiseppi-El]
CC: nicole.deziel@yale.edu
Subject: Invitation to Review for the Journal Of Exposure Science And Environmental Epidemiology
Attachments: JESEE-Review.pdf; Instructions-for-JESEE-Reviewers.docx

Hi Annette- I re-invited you and attached the proof as a back-up! I hope this works! Thanks, Nicole

20-Nov-2018

Dear Dr Guiseppi-Elie:

Manuscript ID JESEE-18-2861.R1 entitled "Synthetic turf pitches with rubber granulate infill: Are there health risks for people playing sports on such pitches?" has been submitted to the Journal Of Exposure Science And Environmental Epidemiology.

I invite you to review this manuscript, which is a revision of a manuscript you previously reviewed. Ideally, we request the review be submitted within 3 weeks. The abstract appears at the end of this letter, along with the names of the authors. Please let me know as soon as possible if you will be able to accept my invitation to review. If you are unable to review at this time, I would appreciate you recommending another expert reviewer. You may e-mail me with your reply or click the appropriate link at the bottom of the page to automatically register your reply with our online manuscript submission and review system.

Once you accept my invitation to review this manuscript, you will be notified via e-mail about how to access ScholarOne Manuscripts, our online manuscript submission and review system. You will then have access to the manuscript and reviewer instructions in your Reviewer Center. At that time you should also view your user profile and update it with current contact information.

If you accept, please also make sure to read the attached document and include responses in the "Confidential Comments for Editor" space.

I realize that our expert reviewers greatly contribute to the high standards of the Journal, and I thank you for your present and/or future participation.

Sincerely,

Dr Nicole Deziel
Journal Of Exposure Science And Environmental Epidemiology Associate Editor
nicole.deziel@yale.edu

Journal of Exposure Science and Environmental Epidemiology
Website: <http://www.nature.com/jes>

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MANUSCRIPT DETAILS

TITLE: Synthetic turf pitches with rubber granulate infill: Are there health risks for people playing sports on such pitches?

AUTHORS: Pronk, Marja; Woutersen, Marjolijn; Herremans, Joke

ABSTRACT: The presence of carcinogenic substances in rubber granulate made from old car tyres raised concerns that the use of this granulate as infill on synthetic turf pitches may cause leukemia and lymphoma in young football players and goalkeepers. Limitations in a number of prior studies on the topic casted doubts on their conclusion that it was safe to play sports on such pitches. 100 Dutch synthetic

turf pitches were sampled for rubber granulate that was analysed for 45 (all samples) or 79 substances (a subset). A subset of samples was additionally analysed for migration of polycyclic aromatic hydrocarbons (PAHs), phthalates and metals into sweat and the gastro-intestinal tract, and for evaporation of volatile substances into air. Exposure scenarios were developed to estimate the exposure of amateur football players via the oral, dermal and inhalation route to the most hazardous substances in rubber granulate. Risks to human health were assessed by comparing toxicological reference values for these substances with the exposure estimates.

A number of carcinogenic, mutagenic and reprotoxic substances were present in rubber granulate used on Dutch pitches. No concern was however identified for phthalates, benzothiazoles, bisphenol A and the metals cadmium, cobalt and lead, as their exposures were below the levels associated with adverse effects on health. PAHs appeared to be the substances of highest concern, but even they present no appreciable health risk with exposures resulting in additional cancer risks at or below the negligible risk level of one in a million.

Our findings for a representative number of Dutch pitches are consistent with those of prior and contemporary studies observing no elevated health risk from playing sports on synthetic turf pitches with recycled rubber granulate. Based on current evidence there is no reason to advise people against playing sports on such pitches.